

**C L A I M S**

1. Measuring device with a Hall sensor, particularly for displacement measurement, characterized in that the Hall sensor (5) is disposed centrally and in axially movable manner in a magnetic tube (2), each half of said magnetic tube (2) being cross-magnetized with opposite polarity.
2. Measuring device according to Claim 1, characterized in that the Hall sensor (5) is held in a support in axially displaceable manner, said support preventing the rotational movement of the Hall sensor (5) relative to the magnetic tube (2).
3. Method for fabricating a magnetic tube for the measuring device according to Claim 1 or 2, characterized in that a tube (2) made of magnetizable material is cross-magnetized in diametrically opposite manner so that one half (6) of the tube (2) is magnetized as the magnetic north pole (3) and the other half (7) of the tube (2) as the magnetic south pole (4), and that in the opposite direction the other half (7) of the tube (2) is provided with a magnetic north pole (3) and a magnetic south pole (4).
4. Method for fabricating a magnetic tube for the measuring device according to Claim 1 or 2, characterized in that a tube (2) made of magnetizable material is through-magnetized in the direction of its axis so that one half (16) of the tube (2) is magnetized as the magnetic north pole (3) and the other half (7) of the tube (2) is magnetized as the magnetic south pole (4) and that then the tube (2) is severed in its center (13) crosswise to its axis, and one part of the tube (6) or (7) is rotated 180° relative to the other part of the tube.